THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was **not** written for publication in a law journal and (2) is **not** binding precedent of the Board.

Paper No. 27

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TOSHIO SUZUKI

Appeal No. 1998-0892
Application No. 08/509,795

ON BRIEF

Before HAIRSTON, JERRY SMITH and HECKER, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 8-14. Claims 1-7 have been cancelled, and claims 15-16 have been allowed. An amendment after final rejection was filed on November 2, 1996 and was entered by the examiner.

The disclosed invention pertains to a method and apparatus for removing noise from input signals to a hand-written character recognition device.

Representative claim 8 is reproduced as follows:

8. A noise removing circuit for a hand-written character recognition device comprising:

an input unit having an input portion on which a character is written;

detecting means for detecting coordinate points of a character written on said input portion in a written order thereon;

noise candidate specifying means for specifying two noise candidate coordinate points one of which is to be removed as a noise coordinate point, said noise candidate coordinate points being consecutive in the written order;

vector calculation means for calculating vectors between one of the noise candidate coordinate points and coordinate points detected prior to and subsequent to the noise coordinate points in the written order, for each of the noise candidate coordinate points, respectively;

angle calculation means for calculating angles between the vectors calculated for each of the noise candidate coordinate points, respectively;

noise identifying means for analyzing positional variations of the noise candidate coordinate points from the coordinate points written prior to and subsequent to the noise coordinate points on the basis of a direct comparison of the angle calculated for one of the noise candidate coordinate points with the angle calculated for the other noise candidate coordinate point, and for determining one of the noise candidate coordinate points whose positional variation is greater than that of the other noise candidate coordinate point as a noise coordinate point; and

noise removing means for removing the noise coordinate point determined as the noise coordinate point from the coordinate points detected by said input means.

The examiner relies on the following references:

Ward	4,608,658	Aug. 26, 1986
Lipscomb	5,023,918	June 11, 1991

Claims 8-14 stand rejected under 35 U.S.C. § 103. As evidence of obviousness the examiner offers Lipscomb in view of Ward.

Rather than repeat the arguments of appellant or the examiner, we make reference to the briefs and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the examiner and the evidence of obviousness relied upon by the examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellant's arguments set forth in the briefs along with the examiner's rationale in support of the rejection and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary

skill in the art the obviousness of the invention as set forth in claim 14. We reach the opposite conclusion with respect to claims 8-13. Accordingly, we affirm-in-part.

Appellant has indicated that for purposes of this appeal the claims will stand or fall together in the following two groups: Group I has claims 8-13, and Group II has claim 14. Consistent with this indication appellant has made no separate arguments with respect to any of the claims within each group. Accordingly, all the claims within each group will stand or fall together. Note In re King, 801 F.2d 1324, 1325, 231 USPQ 136, 137 (Fed. Cir. 1986); In re Sernaker, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed. Cir. 1983). Therefore, we will consider the rejection against claims 8 and 14 as representative of all the claims on appeal.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467

(1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir.

1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellant have been considered in this decision. Arguments which appellant could have made but chose not to make in the brief have not been considered [see 37 CFR § 1.192(a)].

With respect to representative, independent claim 8, the examiner essentially finds that Lipscomb discloses the claimed subject matter except for the direct comparison of the angle calculated for one of the noise candidate coordinate points with the angle calculated for a second noise candidate coordinate point [answer, pages 3-4]. Appellant does not dispute these findings of the examiner [brief, page 4]. The examiner cites Ward as teaching a direct comparison of angles calculated for two points, and the examiner asserts the obviousness of using Ward's angle comparison technique with Lipscomb's noise detector [answer, page 4].

Appellant's only argument in response to this rejection is that Ward does not teach or suggest the direct comparison of an angle calculated for one noise coordinate point with the angle calculated for a second noise coordinate point [brief,

pages 4-5]. More particularly, appellant argues that the angles output from table look-up 39 in Ward are not calculated angles as recited in claim 8, and the comparison of "angles" in Ward relates to a single point and not to two different sample points as claimed [reply brief, pages 2-3].

We agree with the position argued by appellant. The reference angles which are stored in table look-up 39 in Ward are not based on any noise candidate coordinate points, but rather, are theoretical values which determine whether distance ratios associated with each noise candidate coordinate point exceed some predetermined value. The values stored in table look-up 39 are unrelated to the calculated angles of successive noise candidate points in Ward. Therefore, since the angle comparison in Ward is not between angles for consecutive noise candidate points as recited in claim 8, we do not sustain the rejection of claim 8 or of claims 9-13 which are grouped therewith.

With respect to independent claim 14, the examiner indicates how the two conditions set forth in steps (f) and (g) are disclosed by Lipscomb [answer, pages 5 and 6]. Appellant's only argument with respect to this claim is that

the second condition of claim 14 (whether or not the absolute value of V_i equals the absolute value of V_{i-1}) is not taught or suggested in Lipscomb [brief, pages 5-6].

We agree with the examiner's rejection as it applies to claim 14. The claimed condition of $2_1 = 180^o$ would correspond to a straight line being drawn in Lipscomb. Since Lipscomb performs a cross product of consecutive vectors, the cross product of a straight line of vectors in Lipscomb would equal zero because the sine 180^o is zero. Since zero would be below any threshold set in Lipscomb, all points P_i, P_{i+1} and so forth on a straight line would be removed as noise coordinate points [note Figures 2A-2D].

Since all candidate points in Lipscomb would be removed under the condition of a straight line being drawn, the conditions set forth in claim 14 would be satisfied in Lipscomb. Since the examiner's analysis appears correct, and since appellant has not offered any explanation as to why this analysis is not correct, we will sustain the rejection of claim 14 based on this record.

In summary, the rejection of claims 8-14 under 35 U.S.C.

§ 103 is sustained with respect to claim 14 but is not sustained with respect to claims 8-13. Accordingly, the decision of the examiner rejecting claims 8-14 is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

KENNETH W. HAIRSTON Administrative Patent Judge	)
JERRY SMITH Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
STUART N. HECKER Administrative Patent Judge	)

jg

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